

REMARKS

The Office action of March 10, 2004 has been received and its contents carefully noted.

Claims 1-3, 6-10, and 24-36 are pending in the application. Claims 4-5, and 12-23 have been canceled. Claims 12-24 have been canceled without prejudice. Claims 1, 6, 8, and 10 have been amended. Claims 24-36 have been added without the addition of any new matter. The rejection of Claims 21-23 under 35 U.S.C. § 112 is noted and has been rendered moot by the cancellation of these claims.

Claim 1 stands rejected under 35 U.S.C. § 102(e) as being unpatentable over Nagao (U.S. Patent No. 6,055,340). Claims 2-3, and 6-9 stand rejected under 35 U.S.C. § 103(a) in view of Nagao in view of Wang (U.S. Patent No. 6,256,409). Applicant respectfully traverses these rejections, and requests allowance thereof in the continuation prosecution application for the following reasons.

The Claims are Patentable Over the Cited References

Claim 1 is not anticipated by Nagao

Claim 1 stands rejected under § 102(e) in view of Nagao. Nagao fails to disclose the features recited in these claims as amended such as representing an object by deriving a curvature scale space (CSS) representation of the object outline by smoothing the object outline, deriving at least one additional parameter reflecting the shape or mass distribution of a smoothed version of

the original curve, wherein the at least one additional parameter corresponds to the eccentricity of the outline.

Nagao discloses a system for processing digital images to suppress noise and enhance sharpness as described (see FIG. 9). As illustrated in FIG. 9, Nagao takes an original image and subjects the original image to a smoothing process followed by extraction of edge/noise components. However, Nagao makes no mention of deriving a CSS representation as recited since Nagao describes a different smoothing process (see FIG. 9; col. 11, lines 25-67) that is actually performed on the original image as opposed to an object outline as recited. Further, Nagao only extracts edge/noise components (grain is described as a noise component by Nagao - see col. 1, lines 10-12) in contrast to deriving an additional parameter reflecting the shape or mass distribution (see FIG. 9; col. 12, lines 19-20; col. 14, lines 28-67). And Nagao makes no mention of the at least one additional parameter being eccentricity.

Specifically, Nagao states that "...apparatus 10 comprises means 12 for performing a sharpness enhancing process on the original image...means 14 for performing a smoothing process on the original image...means 16 for extracting an edge/noise containing component...(see FIG. 9; col. 7, lines 46-51). Thus, Nagao performs a completely different smoothing process (does not derive a CSS representation) and only extracts noise/edge components (does not derive a parameter reflecting shape or mass distribution) in

contrast to the recited features.

Nagao fails to disclose representing an object by deriving a curvature scale space (CSS) representation of the object outline by smoothing the object outline, deriving at least one additional parameter reflecting the shape or mass distribution of a smoothed version of the original curve, wherein the at least one additional parameter corresponds to the eccentricity of the outline as recited making the claimed invention patentably distinct from the cited reference.

Claims 2-3, and 6-9 are not made obvious by Nagao and Wang

Claims 2-3, and 6-9 stand rejected under § 103(a) in view of Nagao and Wang. As contended above, Nagao fails to disclose deriving a CSS representation and at least one additional parameter reflecting shape or mass distribution as recited as recited as in contrast Nagao uses a completely different smoothing process and only extracts noise/edge components. Further, Wang fails to disclose the recited features as Wang discloses developing an image descriptor (see FIG. 1; col. 3, lines 33-67) but makes no mention of deriving a CSS representation or deriving an additional parameter which is eccentricity to develop the image descriptor.

Nagao and Wang, either alone or in combination, fail to disclose representing an object by deriving a curvature scale space (CSS) representation of the object outline by smoothing the object outline, deriving at least one additional parameter reflecting the

shape or mass distribution of a smoothed version of the original curve, wherein the at least one additional parameter corresponds to the eccentricity of the outline as recited making the claimed invention patentably distinct and non-obvious from the cited reference.

Conclusion

In view of the amendments and remarks submitted above, it is respectfully submitted that all of the remaining claims are allowable and a Notice of Allowance is earnestly solicited.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayments to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

The Examiner is invited to contact the undersigned at (703) 205-8000 to discuss the application.

Respectfully submitted,

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